

2024

1. An apparatus for supporting a seat back in a vehicle, comprising an extruded solid aluminum I-beam formed in a generally U-shaped configuration and having opposing ends supported with respect to the vehicle, said I-beam forming a seat back frame for supporting a seat back.
2. The apparatus of claim 1, wherein said I-beam forms an outwardly-facing channel and an inwardly-facing channel continuously along the length thereof.
3. The apparatus of claim 1, wherein said I-beam comprises a center support positioned between first and second flanges extending the length thereof, and said center support comprises first and second apertures formed therethrough, and said apparatus further comprises a pair of head rest guide tubes disposed in said first and second apertures, and a head rest bar supported within said guide tubes.
4. The apparatus of claim 3, wherein said assembly further comprises a pair of head rest bar adjustment mechanisms supported by said pair of guide tubes.
5. The apparatus of claim 1, further comprising a pair of recliner mechanisms secured to said opposing ends.
6. The apparatus of claim 1, further comprising a cross-member extending between said opposing ends, and bolted to said opposing ends.

7. The apparatus of claim 6, further comprising a plurality of swaged bolts securing said cross-member to said opposing ends.

5 8. A method of manufacturing a vehicle seat back frame, comprising:

- a) extruding an aluminum I-beam comprising a center support positioned between first and second flanges extending the length of the I-beam;
- 10 b) cutting the I-beam to a desired length;
- c) age-hardening the I-beam; and
- d) bending the I-beam into a substantially U-shaped configuration, such that said center support and first and second flanges cooperate to form an inwardly-facing channel and an outwardly-facing channel.

15 9. The method of claim 8, further comprising boring first and second apertures through the I-beam and welding first and second guide tubes in the first and second apertures, respectively.

20 10. The method of claim 9, further comprising extending a cross-member between opposing ends of the I-beam and swaging bolts for attachment of the cross-member to the I-beam.

25 11. The method of claim 8, further comprising boring first and second apertures through the I-beam and swaging first and second guide tubes into the first and second apertures, respectively.

12. The method of claim 8, further comprising:

~~forming first and second attachment holes at
opposing ends of the I-beam;~~

extending a cross-member between the opposing
ends; and

5 swaging bolts within the attachment holes for
securing the cross-member to the I-beam.

Sub. c) 13. A method of attaching a head rest guide tube to a seat back frame having a substantially flat section having opposing sides with an aperture formed therethrough, the method comprising:

(a) inserting the guide tube into the aperture; and

(b) ~~swaging the guide tube over the flat section, whereby to secure the guide tube within the aperture.~~

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